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STATISTICAL BULLETIN
Metropolitan Life Insurance Co.

VOL. IX JANUARY, 1928 No. 1

A NEW HEALTH RECORD IN AMERICAN AND CANADIAN INDUSTRIAL POPULATIONS

In no previous year were health conditions among the Industrial populations of the United States and Canada as satisfactory as during 1927.

The deathrate among the wage-workers of the two countries, and their dependents, may be accurately gauged by that of the more than eighteen million of them who are Industrial policyholders of the Metropolitan Life Insurance Company. This rate dropped, in 1927, to the amazingly low figure of 8.4 per 1,000, *which is a new minimum for all time*. Furthermore, the mortality experience of the Metropolitan Industrial policyholders comprising, as they do, more than one-seventh of the total population and more than one-quarter of the urban population of the two countries, has in past years, always proved to be an accurate index of what has happened among the people of the two countries in general. In all probability, therefore, the health of the whole people of the United States and Canada was never before so good as in 1927.

What Even a Fractional Reduction in the Deathrate Means in Lives Saved

The actual number of deaths among Metropolitan Industrial policyholders, at ages one and over, in 1927, was 147,520. The corresponding deathrate of 8.4 per 1,000 may be compared with 8.9 for 1926 and with the former minimum of 8.5 in both 1925 and 1924. These fractional reductions in the deathrate, when translated into actual savings of lives, assume more importance than appears on the face of the figures. If, for example, the 1926 deathrate had prevailed in 1927 there would have occurred in the latter year, 8,808 more deaths than did occur. This is what results from a reduction of only one-half of one point in the deathrate. And even the reduction of one-

tenth of one point from the former minimal figure of 1925, corresponds to 1,782 fewer deaths last year than would have occurred had the lowest previous mortality rate prevailed.

Comparison With 1911

In 1911 the deathrate of the American and Canadian wage-earners was 12.5 per 1,000. The reduction sixteen years later to 8.4 amounts to a 33 per cent. drop. And no less than 72,570 fewer American and Canadian wage-earners and their dependents died last year than would have died if the deathrate of 1911 had prevailed.

The Health Record of the Industrial and General Populations Compared

The year 1926 is the latest for which comparable mortality data for the general population are available. From 1911 to 1926 the general population deathrate for persons in the age range which is comparable with that of the Metropolitan Industrial experience (that is one to seventy-four years, inclusive) declined only 11.7 per cent. But among the insured wage-earners, their wives and children, during the same period of years, the deathrate dropped 29.3 per cent. The greater drop in the mortality among the Industrial population from 1911 to 1926 resulted in the saving of 37,651 lives in the single year 1926; and during the whole period, 1911 to 1926, fewer persons to the number of 278,395 died among the Industrial policyholders than would have died had the mortality among them declined at the same rate that prevailed in the general population of the United States.

Increase in Life Expectation 1911-1926

The reduction in the deathrate has been reflected in a considerable increase in the expectation of life. This applies to the general as well as to the industrial population; but the relatively greater improvement in the latter has had the effect of extending their life span more than has been the case with the people as a whole. Among wage-workers and their families the expectation of life in 1926 was 8.39 years longer than the average for the years 1911 and 1912. In the general population the increase was only 4.70 years.

Nineteen Hundred and Twenty-Seven Had a Promising Beginning

A promising beginning was made in the very first month of last year, and each succeeding month was satisfactory from the public health standpoint. Eleven of the twelve recorded lower mortality rates than 1926, and six registered lower rates than ever before.

There were very few untoward developments in the public health record of the year. There were, it is true, some unfavorable items, and these are of considerable importance because they pertain to preventable diseases. Early in the year there was a very bad outbreak of typhoid fever in Montreal; and there was unusual prevalence of poliomyelitis in the United States which resulted in an above-average deathrate for this disease. The year was also marked by an increase in the prevalence of diphtheria, which was not only quite general over the United States but in various other parts of the world. What has happened with reference to these three diseases has had little effect upon the general deathrate because, after all, they are of relatively small importance numerically. More important is the increase in violent deaths which is discussed on another page.

A New Minimum Deathrate for Tuberculosis: The Outstanding Public Health Fact of 1927

Beyond question the greatest single public health fact of 1927 was the large reduction of mortality from tuberculosis to a new minimum for all time. The deathrate was 93.5 per 100,000 which is 4.8 per cent. below the previous minimum of 98.2 established in 1925. Since 1920, when a figure of 137.9 was recorded, the reduction has been 32.2 per cent.; since 1915 it has been 52.7 per cent.; and since 1911 when the rate was 224.6, there has been the remarkable drop of 58.4 per cent. The deathrate from tuberculosis of the respiratory system which causes almost nine-tenths of all the deaths from tuberculous disease, has dropped 59.3 per cent. since 1911.

Particular gratification is to be found in some of the individual items in the declining tuberculosis deathrate during the first quarter of the twentieth century. A study made by the Metropolitan last year showed conclusively that the reduction in tuberculosis mortality has applied to all sections of the country; to both the urban and rural populations; to the colored as well as to the white race; and to persons engaged in practically all occupations and branches of industry. Above all, it has applied to all economic strata of the population; and among the industrial wage-earners of our cities and their families, where the tuberculosis situation has always been the gravest, the greatest gains have been accomplished. The campaign of the public health movement against tuberculosis has been effectively organized and carried out. Its good results are becoming cumulative. With an infectious disease like tuberculosis a rapidly declining number of deaths means that we have to deal with corre-

spondingly fewer advanced cases, and hence with fewer foci for new infections. This, in turn, is resulting in fewer new cases and in a steady downward trend in the mortality, which, in a relatively short period of years should bring the deathrate of this scourge of early adult life and of middle age down to the level of the minor causes of death.

Improvement for Three of the Communicable Diseases of Childhood

While the mortality from diphtheria increased slightly last year there was marked improvement with respect to measles, scarlet fever, and whooping cough. The measles deathrate declined from 8.0 per 100,000 in 1926 to 3.3 in 1927. The rate for scarlet fever dropped to 3.0—a new minimum; and that for whooping cough to 3.1 which is lower than that for any previous year, save one.

Pneumonia and Influenza

No other single item contributed as much to the establishment of a new minimal deathrate last year as did the unprecedentedly low mortality from pneumonia. And never before except in 1919 and 1921 (the years following the great influenza pandemics) has there been as big a year-to-year drop in the pneumonia deathrate as was recorded between 1926 and 1927. The closest approach to the 1927 pneumonia deathrate of 62.9 per 100,000 was 67.8 in 1921. A drop in the mortality from influenza from 27.4 in 1926 to 15.6 in 1927 was an important factor in establishing the new minimum for pneumonia.

No Improvement for Cancer

The facts for cancer in 1927 give no comfort. Although the deathrate is only fractionally higher than that for last year it again stands as a new maximum figure for this disease. We must still face the fact that while there go on, year after year, large savings of life as the mortality from tuberculosis, pneumonia, typhoid fever, diarrheal complaints and the communicable diseases of childhood declines, the cancer deathrate continues to rise. Just as tuberculosis has been the chief scourge of early adult life and middle age, so is cancer one of the most destructive diseases of the higher age groups. And there is no more marked contrast in the public health record of recent years than that between the brilliant success of the anti-tuberculosis campaign and the lack of any signal success in the control of cancer.

Mortality from Diabetes Still High

The diabetes deathrate in the industrial population in 1927 was 17.0 per 100,000, the same as in 1926. This figure has been exceeded only once during the period 1911 to 1927. The figure for the completed year confirms the statement which appeared in the STATISTICAL BULLETIN of May, 1927, to the effect that recent years were recording no improvement in the mortality from this disease. It should be noted, however, that the 1927 mortality data for the first nine months of the year showed that the increase was entirely among colored persons. In all probability, colored diabetics, as a group, have not received the benefits of the insulin treatment in as great a ratio of cases as have the whites. The failure of the diabetes deathrate to decline since the insulin treatment began to be used is absolutely no ground for drawing conclusions (as has been done in some quarters) that this treatment is ineffective. It has been definitely established that the use of insulin delays the progress of the disease and prolongs the lives and promotes the working efficiency of diabetics. One result has been that the average age at death of diabetics has increased during recent years, and there is little ground for doubt that had it not been for the increasing use of insulin, the diabetes deathrate would have been even higher. It may well be that the insulin treatment is not being made use of to the greatest possible extent by a considerable proportion of medical practitioners. However this may be, the fact remains that in the industrial populations of the United States and Canada there has been no decline, but on the other hand, a slight increase in the diabetes deathrate in recent years.

Slight Decline in the Mortality from the Principal Degenerative Diseases

The deathrates for heart conditions and cerebral hemorrhage dropped slightly last year and that for chronic nephritis declined appreciably. Lower deathrates for these diseases are usually coincidental with a drop in the influenza and pneumonia deathrates. Heart disease in 1927 was again the leading single cause of death among these insured wage-earners, as it has been for every year since 1922.

Diarrheal Complaints

The deathrate from diarrhea and enteritis is of much more importance as an item in infant mortality than it is in a report like the present, which does not include deaths of persons under one year

of age. It is, therefore, most encouraging to be able to report that data covering three-quarters of 1927, and including infant deaths, show the lowest diarrheal disease rate ever recorded among infants of industrial wage-earners. Improvement, furthermore, is in evidence among both white and colored infants.

Diseases Incidental to Pregnancy and Childbirth

The deathrate for puerperal diseases, in 1927, was 15.6 per 100,000. This, although identical with that recorded in 1926, is the lowest ever registered among women in the American and Canadian industrial populations. It is true that the decline shown for these puerperal diseases, as a group, was not in evidence last year for puerperal septicemia, which is the most important disease of this class, not only from a numerical standpoint but from that of preventability. The increase last year in the deathrate for puerperal septicemia was small, and there is nothing discouraging about it, as the figure (6.3 per 100,000) is still the lowest ever recorded among women of the industrial population with the single exception of 6.0, in 1926.

The rates for puerperal albuminuria and for the "accidents of pregnancy" (which include deaths caused by abortions, miscarriages, and ectopic pregnancies) were lower in 1927 than ever before.

With respect to the entire group of puerperal diseases data by color, covering the first nine months of the year show that had it not been for an increase among colored women the 1927 deathrate for puerperal diseases would have established a new minimal figure among women in the industrial population.

Alcoholism Deathrate Declines Slightly

Deaths from alcoholism in 1927 numbered 603 as compared with 638 in 1926. There was a resultant decline in the deathrate from 3.7 per 100,000 in 1926 to 3.4 in 1927. The 1927 rate was higher than that for any year since 1917 with the exception of 1926. It is lower than for any year between 1911 and 1917 inclusive. The deathrate from this disease rose steadily between 1920 and 1926; but there was in 1927 the check noted above, which may or may not indicate that the peak figure since the establishment of National Prohibition has been reached.

Of the 603 deaths charged to alcoholism in 1927, 598 occurred among approximately seventeen million Industrial policyholders in the United States, whereas only five were charged to more than one

million policyholders in Canada. Among the industrial populations, at least, the alcoholism deathrate in the United States was about nine times as high in 1927 as it was in Canada. Much interest attaches to the matter of whether or not the increasing sale of alcoholic beverages, under government regulation, in Canada during 1927, has been reflected in an increase in the alcoholism deathrate. These figures show very definitely that so far as the industrial population is concerned there was no increase in fatal alcoholism during 1927 in Canada.

During the six-year period 1922-1927, there were reported 2,898 deaths from alcoholism among Metropolitan Industrial policyholders. Among the more than seventeen million persons exposed to risk in the United States the alcoholic deaths numbered 2,868 whereas among something over one million policyholders in Canada, only thirty deaths were charged to this cause.

Eleven hundred and sixty-eight deaths were charged to cirrhosis of the liver, which is closely associated with alcoholism, in 1927, as compared with 1,148 in 1926. There was a slight decline in the deathrate, that is, from 6.7 in 1926 to 6.6 in 1927.

There were twenty-nine deaths reported from acute poisoning by wood or denatured alcohol. This is the same number as occurred in 1926. Deaths reported from this cause (which have never been important numerically) declined steadily from the maximum reached in the first year of National Prohibition up to the year 1924; since 1924 there has been practically no change.

More Violent Deaths in 1927

As forecasted in the December, 1927, STATISTICAL BULLETIN, a year which has been featured by a most remarkable improvement in public health, has shown no progress in public safety. There was, it is true, no alarming increase in accidental deaths. But there was no improvement! And there has been no improvement during the present decade! During the very years that have witnessed remarkable progress in the conquest of important *diseases* like tuberculosis, typhoid fever, infantile diarrhea, etc.—the very best evidence of progress in the control of preventable disease—there has not been the slightest reduction to reward those who have been working to reduce the rate for the *equally preventable fatal accidents*. Even a stationary fatal accident rate is a challenge to the public safety movement. There can be no doubt that rationally conceived measures have been in operation for accident control, and there can equally be no doubt that, along certain

lines, these measures have made their impress. The deathrates for accidental burns, drownings, falls, accidents on steam railroads, have all been reduced. The safety movement has been enjoying a considerable measure of success in the control of accidents in industry and in the home! The safety movement has failed, thus far, in its effort to control accidents on the streets and highways!

Automobile Fatalities

There is one single item in the fatal accident situation where conditions are going from bad to worse each year. This item is automobile fatalities. The 1927 figure is more than eight times that for 1911, more than three times that for 1915, almost twice that for 1917 and has increased 67.6 per cent. in the seven years since 1920. In the year 1927 no less than 3,266 Industrial policyholders lost their lives in automobile accidents with a resultant deathrate of 18.6 per 100,000, or an increase of 9.4 per cent. over the preceding year. There is, then, just one reason why the deathrate for fatal accidents does not go down; that reason is because three out of every ten accidental deaths are incidental to automotive traffic where the rate is constantly going up.

And yet in certain communities some measure of success has been attained in reducing the deathrate from this cause. There should be general study, with a view to general application, of the methods which have been demonstrated successes in certain communities—more particularly in Albany, N. Y., Grand Rapids, Michigan and Providence, R. I.

It has been pointed out that from 35 to 40 per cent. of the automobile fatalities concern children under fifteen years of age, with the heaviest concentration between ages five and ten. These children, for the most part, are killed while either at play on the street or while crossing the streets. We repeat at this time a suggestion made in an earlier issue of this BULLETIN that this is another question with which the child welfare movement might well concern itself. "Child welfare" is a generic term which relates to safety as well as health. Almost as many wage-earners' children lost their lives in 1927 from automobile accidents as from measles, scarlet fever and whooping cough combined!

Suicides Increase Appreciably; Homicides Slightly

The suicide deathrate in 1927 was 8.4 per 100,000, a considerable increase over the figure for 1926 (7.8). The 1927 suicide rate was the highest in the industrial population since 1917. The homicide

rate was 7.3, a slight increase over last year. There has been practically no change in the homicide rate in the last five years.

Metropolitan Life Insurance Company
Deathrates per 100,000 for Principal Causes. Premium-paying Business in Industrial Department. 1911 and 1917 to 1927
(Ages One and Over)

CAUSE OF DEATH	1927	1926	1925	1924	1923	1922	1921	1920	1919	1918	1917	1911
ALL CAUSES OF DEATH	839.9	885.7	846.3	848.0	897.1	882.9	870.6	989.4	1063.0	1559.2	1161.1	1253.0
Typhoid fever	4.7	4.2	4.6	4.4	5.2	5.7	6.7	6.7	7.3	11.5	12.1	22.8
Communicable diseases of childhood	19.6	25.9	19.7	26.2	33.1	29.8	37.9	43.1	31.5	41.6	46.8	58.9
Measles	3.3	8.0	2.5	5.7	8.4	4.3	3.2	8.5	3.5	8.6	11.1	11.4
Scarlet fever	3.0	3.4	3.4	4.3	4.4	4.9	7.0	6.0	3.9	3.6	6.0	13.1
Whooping cough	3.1	5.0	3.6	3.5	4.8	2.6	3.9	6.6	3.2	10.1	5.1	7.1
Diphtheria	10.2	9.5	10.2	12.7	15.5	18.0	23.8	22.1	20.9	19.3	24.6	27.3
Influenza and pneumonia	78.5	105.6	88.3	84.4	107.7	95.3	76.5	159.5	214.1	542.2	135.4	131.2
Influenza	15.6	27.4	19.4	14.2	30.1	21.7	8.7	53.5	96.9	272.4	14.4	15.9
Pneumonia	62.9	78.2	69.0	70.2	77.6	73.7	67.8	106.1	117.2	269.8	121.0	115.3
Poliomyelitis	2.0	.7	1.4	1.0	.7	.9	1.7	1.0	.6	1.1	1.6	1.6
Tuberculosis—all forms	93.5	99.5	98.2	104.4	110.5	114.2	117.4	137.9	156.5	189.0	188.9	224.6
Tuberculosis of respiratory system	82.7	87.9	87.0	93.4	100.6	103.6	105.6	124.0	141.6	171.2	172.3	203.0
Cancer—all forms	75.3	75.1	71.8	71.5	72.7	72.0	71.7	69.8	67.0	67.2	70.9	68.0
Diabetes mellitus	17.0	17.0	15.5	15.1	16.2	17.2	15.5	14.1	13.4	14.0	15.3	13.3
Alcoholism	3.4	3.7	3.0	2.9	3.0	2.1	.9	.6	1.4	1.8	4.9	4.0
Cerebral hemorrhage, apoplexy	55.7	56.5	54.4	61.1	61.9	62.9	62.1	61.3	59.8	64.0	66.8	64.2
Diseases of heart	134.3	136.4	128.7	125.2	128.7	126.7	117.4	117.0	113.9	141.7	142.0	141.8
Diarrhea and enteritis	9.1	10.5	12.3	11.3	11.1	10.8	14.2	15.8	16.9	23.4	25.5	28.0
Chronic nephritis (Bright's Disease)	70.5	74.9	71.2	66.5	69.6	70.3	68.0	70.8	73.5	86.8	95.7	95.0
Puerperal state—total	15.6	15.6	16.9	17.2	17.9	19.0	19.8	23.0	20.0	27.4	18.2	19.8
Puerperal septicemia	6.3	6.0	6.6	6.6	6.9	7.4	8.5	8.6	6.7	7.3	7.5	8.8
Puerperal albuminuria and convulsions	3.1	3.6	3.8	4.3	4.2	4.7	4.9	5.0	4.8	4.9	5.1	4.7
Accidents of pregnancy	1.3	1.7	1.6	1.6	1.8	1.7	1.6	3.1	3.0	6.9	1.6	1.7
Total external causes	79.6	77.2	78.3	76.9	77.8	71.8	72.0	72.0	94.2	128.9	106.7	97.9
Suicides	8.4	7.8	7.0	7.3	7.4	7.5	7.6	6.1	6.8	7.6	9.3	13.3
Homicides	7.3	7.2	7.4	7.2	7.3	6.3	6.7	5.8	6.9	6.2	7.4	7.2
Accidents—total	63.8	62.3	63.9	62.4	63.0	58.0	57.5	59.6	63.8	75.5	76.5	77.4
Accidental burns	5.3	6.1	6.1	6.4	6.3	6.1	6.6	8.1	8.1	9.0	8.9	8.8
Accidental drowning	6.8	6.3	6.5	7.3	6.7	7.3	8.2	6.7	8.6	9.4	8.7	10.2
Accidental traum. by fall	8.4	7.9	8.1	7.7	8.4	7.3	7.1	7.3	8.0	10.4	11.9	13.2
Accidental traumatism by machines	1.3	1.4	1.3	1.3	1.7	1.6	1.0	1.7	1.6	2.4	2.0	1.8
Railroad accidents	4.1	4.2	4.0	4.0	4.9	4.1	3.9	5.2	5.7	7.8	8.5	9.5
Auto accidents	18.6	17.0	16.8	15.9	15.4	13.6	12.2	11.1	10.7	10.3	9.7	2.3
All other accidents	19.3	19.4	21.2	19.7	19.5	18.0	18.5	19.5	21.2	26.1	26.8	31.6
War deaths	*	*	*	*	.....	.1	.1	.5	16.6	39.7	13.5	.....
Other diseases and conditions	181.0	183.6	183.4	180.9	181.7	185.1	190.5	197.8	193.5	219.7	231.9	283.5

* Deathrate less than .05 per 100,000.

HEALTH RECORD FOR DECEMBER, 1927

The health record among Metropolitan Industrial policyholders for the final month of 1927 is a fitting close to the month-to-month record of the best health year they have ever enjoyed. Like five other months of the year, December, 1927, registered a lower death-rate than ever recorded in the corresponding month of any year. This figure was 8.7 per 1,000; the previous low point was 8.9 for December, 1925.

Almost every cause listed in the table on page 11 shows improvement over December of last year. The most important single factor in bringing down the December mortality was the remarkably few deaths, for a winter month, charged to pneumonia. Other noteworthy reductions as compared with December, 1926, were those for tuberculosis, cancer, and Bright's disease.

There were more automobile fatalities than in December, 1926, and this was the tenth month of 1927 to show more deaths from this cause than in the corresponding month of 1926.

The general deathrate for the large cities of the United States in December was 12.8 per 1,000, which is identical with that for December, 1926. There was greater prevalence of diphtheria, influenza and poliomyelitis than was in evidence a year ago, but fewer cases of measles, scarlet fever, smallpox and typhoid fever, were reported. Comparison with November, 1927, shows more measles, scarlet fever, smallpox and influenza cases, but less sickness from diphtheria, poliomyelitis and typhoid fever. Reports of poliomyelitis cases numbered less than half those reported in November.

The admission of the state of Georgia to the U. S. Birth and Death Registration Areas was one of the outstanding public health developments of the month. A conference on pellagra called by the Governor of Arkansas was attended by about 400 persons. Each of the counties in Mississippi affected by the flood last spring has since organized a full time county health department which is receiving the assistance of the U. S. Public Health Service and the Rockefeller Foundation, as well as that of the State.

The following table shows the mortality among the Industrial policyholders for December, 1927; December, 1926; November, 1927; and the year 1926.

METROPOLITAN LIFE INSURANCE COMPANY

Deathrates* per 100,000 for Principal Causes, Premium-paying Business in Industrial Department

(Annual Basis)

MONTHS OF DECEMBER, 1927; NOVEMBER, 1927, AND OF DECEMBER, 1926

CAUSES OF DEATH	RATE PER 100,000 LIVES EXPOSED*			
	Dec. 1927	Nov. 1927	Dec. 1926	Year 1926
TOTAL—ALL CAUSES	866.0	849.8	932.5	945.6
Typhoid fever	2.8	4.3	4.1	4.2
Measles	2.0	1.0	3.3	10.2
Scarlet fever	2.5	2.6	2.4	3.4
Whooping cough	3.7	3.9	5.8	9.6
Diphtheria	14.3	12.4	15.5	9.7
Influenza	17.7	11.0	18.7	31.1
Tuberculosis (All forms)	84.0	79.2	89.7	99.0
Tuberculosis of resp'y system	74.1	70.3	80.1	86.7
Cancer	73.0	73.5	78.4	73.7
Diabetes mellitus	18.1	16.2	20.2	16.7
Cerebral hemorrhage	56.0	53.2	54.7	55.6
Organic diseases of heart	135.3	135.2	139.7	134.3
Pneumonia (All forms)	83.5	66.0	97.4	98.2
Other respiratory diseases	16.4	14.9	15.2	13.0
Diarrhea and enteritis	16.1	23.1	17.4	29.8
Bright's disease (Chronic nephritis)	65.7	66.7	78.0	73.5
Puerperal state	12.3	14.5	12.8	15.3
Suicides	7.2	8.0	7.4	7.7
Homicides	6.6	7.6	7.3	7.0
Other external causes (excluding suicides and homicides)	59.9	62.4	62.2	62.3
Traumatism by automobiles	16.5	20.8	14.3	16.8
All other causes	189.0	194.2	202.3	191.0

*All figures include infants insured under one year of age.

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STATISTICAL BULLETIN,

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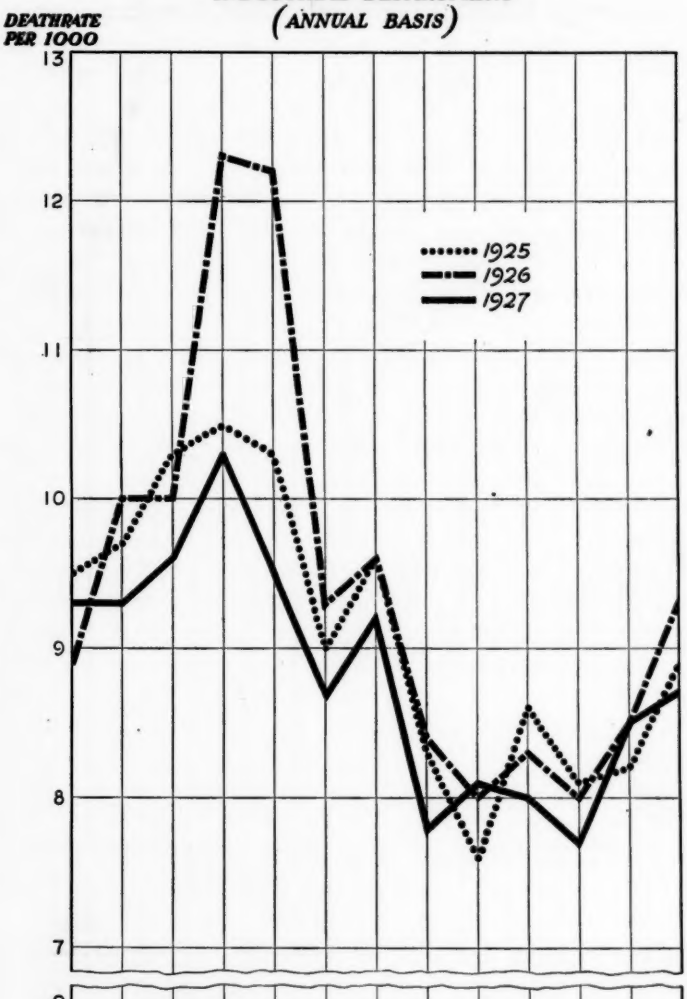
Deathrates from All Causes

METROPOLITAN LIFE INSURANCE CO.
INDUSTRIAL DEPARTMENT
(ANNUAL BASIS)



	(DEC.)	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1925		9.7	10.3	10.5	10.3	9.0	9.6	8.3	7.6	8.6	8.1	8.2	8.9
1926		10.0	10.0	12.3	12.2	9.3	9.6	8.4	8.0	8.3	8.0	8.5	9.3
1927		9.3	9.6	10.3	9.5	8.7	9.2	7.8	8.1	8.0	7.7	8.5	8.7

M. L. I. CO. PRESS—77646—PRINTED IN U.S.A.